IN THE SPECIFICATION:

Please amend the specification as follows:

Please replace the paragraph at Page 1, paragraph 2 with the following amended paragraph:

The use of the global information network known as the Internet as a medium for carrying out sales transactions (i.e., online transactions) is known. The popularity of the Internet with home and business computer users has provided a market opportunity to provide transaction mechanisms for such Internet users. Retailers, for example, have launched "online catalogs" via Web pages as an alternative (or additional) means for selling their products or services to their customers.

Please replace the paragraph at Page 2, paragraph 3 with the following amended paragraph:

In general, bids affect the information revelation and the relevant outcome. On the other hand, message exchanges only affect information revelation. The current auction schemes, however, ~~provides~~ provide the participants with relatively few options and ~~provides~~ provide an uninteresting transaction scheme.

Please replace the paragraph at Page 5, paragraph 9 with the following amended paragraph:

Referring more specifically to the drawings, for illustrative purposes the present invention is embodied in the apparatus shown ~~FIG.~~ in FIGS. 1, 2, 4 and 5 and the method outlined in ~~FIG.~~ FIGS. 3 and 6. It will be appreciated that the apparatus may vary as to configuration and as to details of the parts, and that the method may vary as to details and the order of the steps, without departing from the basic concepts as disclosed herein. The invention is disclosed generally in terms of online auction ~~system~~ systems, although numerous other uses for the invention will suggest themselves to people of ordinary skill in the art.

Please replace the paragraph at Page 6, paragraph 2 with the following amended paragraph:

Referring first to FIG. 1, there is shown a functional block diagram of an illustrative auction system 10 in accordance with the present invention. The auction system 10 operates within a network server 12 which can be any standard data processing means or computer, including a minicomputer, a microcomputer, a UNIX® machine, a mainframe machine, a personal computer (PC) such as an INTEL® based processing computer or clone thereof, an APPLE® computer or clone thereof or, or a SUN® workstation, or other appropriate computer.

Please replace the paragraph at Page 7, paragraph 2 with the following amended paragraph:

Server 12 is operatively coupled for communication to at least one client node 20a, although typically Server 12 will be coupled to a plurality of nodes (20a through 20n), each operatively coupled for communication with the auction system[[,]] 10, as shown in FIG. 1. Each client node 20a through 20n, like server 12, preferably comprises a standard computer such as a minicomputer, a microcomputer, a UNIX® machine, mainframe machine, personal computer (PC) such as an INTEL®, APPLE®, or SUN® based processing computer or clone thereof, or other appropriate computer. Each client node 20a through 20n also includes typical computer components (not shown), such as a motherboard, central processing unit (CPU), random access memory (RAM), hard disk drive, display adapter, other storage media such as a diskette drive, CD-ROM, flash-ROM, tape drive, PCMCIA cards and/or other removable media, a monitor, keyboard, mouse and/or other user interface means, a model, network interface card (NIC), and/or other conventional input/output devices. Each client node 20a through 20n also has loaded in its RAM an operating system (not shown) such as UNIX®, WINDOWS® 98 or the like. Each client note 20a through 20n further has loaded in RAM a Web-Browser browser program (not shown) such as NETSCAPE®, INTERNET EXPLORER®, AOL®, or like browsing software for client computers.

Please replace the paragraph at Page 9, paragraph 1 with the following amended paragraph:

As described above, the auction system 10 comprises an interface module 14, a transaction module 16 operatively coupled for communication with the

interface module 14, and a mechanism module 18 operatively coupled for communication with the transaction module 16. The auction system 10 is further coupled to a data storage facility or database (DB) 22 wherein data associated with operation of the auction system 10 is maintained. The DB 22 maintains such information as the participants (buyers and sellers), the items for sale, and the transactions, among other relevant auction data. Typically such information is maintained by the DB 22 using a conventional relational table scheme although other arrangements, such as a b-tree for example, may also be used for the storage and retrieval of data between the auction system 10 and the DB 22.

Please replace the paragraph at Page 9, paragraph 2 with the following amended paragraph:

The interface module 14 is operatively coupled for communication with the client nodes 20a through 20n, normally via a network connection, such as an Internet connection. The interface module 14 carries out the operation of managing communications between the client nodes 20a through 20n and the auction system 10. For example, the auction system 10 may be configured as a "web" or "http" application, in which case the interface module 14 manages http requests from users of the client nodes 20a through 20n. Accordingly, the interface module 14 provides an interface (e.g., command line user interface, graphical user interface, or voice activated user interface) for auction participants (sellers and bidders) to engage in online auctions via ~~request~~ requests submitted from the client nodes 20a through 20n to the auction system 10. A request issued by a participant is communicated to the transaction module 16 for further processing. The results (outcome) of the transaction are communicated as a reply to the user via interface module 14.

Please replace the paragraph at Page 10, paragraph 1 with the following amended paragraph:

The transaction module 16 processes requests from participants of the auction system 10, which are communicated to the transaction module 16 via the interface module 14. For example, when a seller lists an item for sale with the auction system 10, the transaction module 16 manages the bids, messages, or other moves

which are carried out by the participants as part of the auction process. The transaction module 16 also manages such auction events as the selection of bidders, the beginning and ending of rounds of moves, the information revelation and the clearing of the~of~ auctions, for example. As described further below, the mechanism module 18 defines the rules used by the transaction module 16 for carrying out its transactions.

Please replace the paragraph at Page 11, paragraph 1 with the following amended paragraph:

Referring now to FIG. 2, as well as FIG. 1, there is shown a functional block of an illustrative mechanism module 18 in accordance with the present invention. The mechanism module 18 comprises a plurality of enhanced auction modules 30 through~56~ 62, each available for auction use separately or together with one or more of the other modules 30 through~56~ 62. Each of the auction modules 30 through~56~ 62 defines a specific set of rules which dictate the auction operation process.

Please replace the paragraph at Page 12, paragraph 1 with the following amended paragraph:

Auction module 32 provides for "temporal" auctions. According to module 32, each bid for an item not only specifies a monetary amount, but also an expiration event. That~is~ is, the bid is valid (i.e., commits the bidder) until the expiration event occurs. Additionally, the seller may stop the auction at any time, at which point the item is sold to the bidder with the highest standing bid. The expiration event may be conditioned on various events, generally which are outside the control of the bidder. For example, the expiration event may be a specified date and time. In another example where several temporal auctions are run in parallel, the expiration of a bid in one auction can be made contingent on the outcome in another auction. Once the expiration event occurs, the bid expires and is no longer "standing". That is, the bidder is not further committed to purchase the item once the bid has expired. This arrangement provides the advantage that a bidder may bid on many similar items (in parallel), but also~make~sure~ ensures that the bidder~only~ is only committed to one of the items. Another advantage~with~ of temporal auctions is that the expiration events may be hidden from the seller, thereby encouraging the seller to close the deal to

prevent standing bids from expiring. According to the present invention, the expiration condition may be left "empty," meaning that the bidder may be able to retract his bid at any time before the seller decides to accept it.

Please replace the paragraph at Page 13, paragraph 3 with the following amended paragraph:

At box 130, the auction information may be revealed to the participants of the auction. Such information may include such data as, such as the highest standing bid, or the highest standing bidder, for example. Diamond 140 is then carried out.

Please replace the paragraph at Page 13, paragraph 6 with the following amended paragraph:

At diamond 160, the transaction module 16 determines whether an end of auction event has occurred for the current item for sale. For example, the item may have a specified time limit which has expired. Another example of an end of auction event is when the seller "closes the deal" and ends the auction. When an end of auction event occurs, the rounds of moves phase completes and box 170 is then carried out to clear the auction. Otherwise, moves continue with either box 115 or box 120. It is noted that this process described herein and depicted in FIG. 3 is only exemplary and other embodiments of the move module 32 may be used in accordance with the invention.

Please replace the paragraph at Page 14, paragraph 1 with the following amended paragraph:

Referring again to FIG. 2, as well as FIG. 1, auction module 34 provides for "temporal" negotiations. In temporal negotiations, bidders and sellers submit "bid" and "sell" temporal offers respectively. Each temporal offer can be made conditioned on some expiration event, as described above for temporal auctions (module 32). Here, the seller may "close the deal" at any given time, at which point the item is sold to the bidder with the highest standing bid. Additionally, the bidder may "close the deal" at any given time, at which point the item is bought from the seller with the lowest standing offer. This procedure may lead to significant efficiency gains, especially in its

second-price embodiment (i.e., when coupled with the second-price mechanism 30). In fact, it associates combines the flexibility of temporal offers (which allow, for instance, to make offers to be made for many substitute goods in parallel) with the efficiency of the second-price scheme (which creates incentives for truth-revelation on both sides).

Please replace the paragraph at Page 15, paragraph 1 with the following amended paragraph:

The temporal negotiation module supports a bartering capability. As part of an offer a bidder may specify goods that he/she puts for sale as part of his/her bid. Combinations of monetary payments and bartering are also supported. For example, a seller who puts goods for sale may offer it them, augmented with a payment of $50, in exchange for goods offered by another participant. This offer may be combined with other substitute offers of this kind or ones that include only monetary payments. Expiration dates may also be specified as before. Notice that in the case of offers that include a bartering option, sellers/buyers will need to choose which of the offers for particular goods they wish to accept, since there is no general numerical ordering of these offers.

Please replace the paragraph at Page 15, paragraph 2 with the following amended paragraph:

Auction module 36 provides for "descending bid" auctions. In descending bid auctions, the sale price for an item decreases with time at a predetermined rate, normally determined by the seller. FIG. 4 depicts a graphical representation 60 of the relationship between the bid price and time. The slope 62 representing represents the auction price set to an initial value at point 64, which corresponds to price p0 (70) at time t0 (74). The slope 62 terminates at point 64, which corresponds to price p1 (72) and time t1 (76). As the auction opens, the price for the item begins at p0 (70) and over time declines to p1 (72). The p1 (72) price generally corresponds to the seller's "reserve" price. It will be appreciated that slope 62 is only exemplary, and that various other (non-linear) slopes may also be used.

Please replace the paragraph at Page 16, paragraph 3 with the following amended paragraph:

Referring again to FIG. 2, as well as FIG. 1, auction module 38 provides for aggregated combinatorial auctions. In general, the module 38 provides a process wherein different auctions, by different sellers, are aggregated in order to yield a unified combinatorial auction. According to this module 38, sellers register their goods until a specified date (Date 1). These goods are sold together (aggregated) in one big auction which ends on a second specified date (Date 2). From ~~date~~ Date 1 to ~~date~~ Date 2, bidders submit bids for any of the goods, while specifying when certain goods are "substitute" and they only wish to obtain a predetermined amount (e.g., one item).. On ~~date~~ Date 2, the auction closes and the market is cleared. This scheme provides the advantage of allowing for bids on combinations of items, even though the items may be put on sale by different sellers. In turn, the combinatorial bids provide better deals for buyers who have an interest in acquiring several items in conjunction.

Please replace the paragraph at Page 17, paragraph 2 with the following amended paragraph:

Auction module 42 provides for enhanced "quality-based" auctions. According to module 42, the purchase prices are determined by the total quantity of items sold. More particularly, the price for an item is determined not only by the total sales of that item, but also by the total ~~sale~~ sales of other related goods. That is, ~~price~~ prices for items in the auction can be made functional on the total quantity sold. For example, once the total number of sales for video cassette ~~records~~ recorders (VCR) has reached a certain threshold, the price for televisions (TV) drops by a predetermined amount. As more VCRs are purchased, the price for TVs accordingly ~~decrease~~ decreases. In this way, the sale price is inversely proportional to the number of bids received for said goods. According to one implementation, the seller may provide a table of prices, wherein the ~~prices~~ price for each item ~~are~~ is specified according to the number of bids received. During the auction, the sale price for each item for auction is set according to the number of bids received. Additionally, bidders may use "proxy" (conditional) bids which commit the bidder only if a certain condition occurs, such as, if the price of a bundle drops below a certain threshold.

Please replace the paragraph at Page 18, paragraph 1 with the following amended paragraph:

Auction module 44 provides for enhanced "bundle-based" auctions. According to module 44, a "bundle" is sold when the total revenue for the bundle reaches some predetermined reserve price, which may be hidden or revealed. Under this scheme, a seller may list two or more items (i.e., a "bundle") and indicate a reserve price for the entire bundle. That is, the seller provides a "shared" reverse price, so that when the bids for the individual items are added together, if the sum satisfies the "shared" reserve price, the bundle is then sold. In general, if the "shared" reserve price is not met, none of the items in the bundle are sold. The system also supports the clearing of the auction under other conditions, such as that a pre-determined clearing time has arrived. Here again the items will be sold only if the sum of bids for them is greater or equal to the shared "shared" reserve price. Extensions of that condition, which enable selling only a subset of the items items, are discussed below. Another modification supported by the system is to allow the seller to modify (and in particular decrease) the shared "shared" reserve price if the bids of the agents did not meet it, while supplying an appropriate message to the bidders.

Please replace the paragraph at Page 20, paragraph 1 with the following amended paragraph:

FIG. 5 illustrates the cycling process 200 of auction items according to auction module 46. Items for sale are generally either in the "normal" state 210, where no rebate is generally provided for bids received during this state. At periodic intervals, the items in this pool may be featured (state 220), where a rebate is provided for bids received during this state. It is noted that items may be featured in parallel and/or sequentially with other items in the pool.

Please replace the paragraph at Page 20, paragraph 5 with the following amended paragraph:

Auction module 50, 50 provides for "conditional" auctions. In conditional auctions, an external event may be tied to auctions auction sales, such that

the occurrence of an external event outside the control of the participant may be used to influence the auction terms (e.g., allocation and payment). For example, the sale price for an item may be conditioned on stock market prices, or city temperature, for example. Alternatively, the final allocation of the item may be subject to the occurrence of an external event. For example, a predetermined, publicly disclosed condition may be attached to the item for sale; at the close of the auction, the highest bidder receives the auctioned item if, and only if, the external condition is verified.

Please replace the paragraph at Page 22, paragraph 1 with the following amended paragraph:

At box 320 (the ~~bidding~~ bid placing phase), participants submit bids in the order given by their requested rebate such that a participant who requested higher rebates ~~bid~~ bids before participants who requested lower rebates. In general, participants who bid after other ~~participants~~ participants, are aware of the previous participant bids. Box 330 is then carried out to provide allocation of the sale and clearing of the auction using conventional allocation and clearing means.

Please replace the paragraph at Page 22, paragraph 3 with the following amended paragraph:

Auction module 56 provides for "tournament" (or "survival") auctions. According to auction module 56, a plurality of items, M items, are sequentially auctioned in "n" consecutive rounds of bidding where Mi items are auctioned in round i. At the end of each round of bidding only a pre-specified number of the highest bidders ~~is~~ are allowed to proceed to the next round, while the remaining bidders are excluded from participation in the remaining rounds. For example, module 56 may provide that only a certain number of bidders "survive" to the next rounds of bidding. Alternatively, module 56 may provide that a certain number of current bidders are excluded (i.e., do not "survive") from participation in the next rounds. Other arrangements for limiting the number of bidding participants for successive rounds may also be used with this module scheme.

Please replace the paragraph at Page 22, paragraph 4 with the following amended paragraph:

Additional, the Mi highest ~~bidder~~ bidders at the end of round i ~~receives~~ receive the ~~item~~ items offered for sale at that round. In one embodiment of auction module 56, all bidders pay the amount of their bids at each round regardless of whether they receive the item or not. This arrangement allows a bidder to compete strategically for a sequence of similar or dissimilar items, and provides for a more entertaining and challenging online transaction environment.

Please replace the paragraph at Page 24, paragraph 3 with the following amended paragraph:

As an example, consider a sealed bid auction for several units of a single type of goods, where the ~~numbers~~ number of units available is not communicated to the users. Assume that the benefit from converting a customer is evaluated at a sum of $X, and the seller is interested in getting a benefit of at least $Y, for each unit of goods. Given the agents' bids, an optimal reserve price can now be computed; this reserve price will take into account the fact that by winning a unit of goods by a first time buyer who will pay a sum of $K, the actual seller's gain is $(K+X). Notice that the reserve ~~price,~~ price determination ~~can not~~ cannot ~~be~~ simply be implemented by adding $K to the bids of potential first-time buyers, given the condition on no price differentiation.

Please replace the paragraph at Page 26, paragraph 1 with the following amended paragraph:

In the basic form of the bargain market the bid price will mention the maximum quantity requested and the price.per ~~unit~~ unit, the seller ask price will be for a price per unit, and he/she may decide ~~on~~ at a particular point in time to sell a subset of the units.

Please replace the paragraph at Page 27, paragraph 1 with the following amended paragraph:

The barter market also supports optimal matching for the case where a market is periodically cleared and where participants specify exchanges they are interested in (combining offers to exchange goods with monetary transfers) ~~For~~ ; for example, an algorithm for finding exchanges such that there will be no pair of people that will prefer to exchange with one another rather than with their assigned partners.

Optimal circular matching can also be supported. Optimal circular matching involves finding maximal circular barters.